

CLAIMS

We claim:

1. A carton comprising a plurality of side panels hingedly joined together by parallel fold lines, the side panels having respective end panels hingedly joined thereto by  
5 a second fold line substantially perpendicular to the parallel fold lines, and a locking mechanism comprising two notches formed in a free edge of the end panels, each of the notches being positioned in the free edge an equal distance from one of the parallel fold lines closest to the notches, such that when the side panels are folded to form the carton and the end panels are folded over, one of the notches from each of the end panels  
10 interlocks with one of the notches from an adjacent one of the end panels to form double-notch locking junctions.
2. The carton of claim 1, wherein the notches are substantially rectangular in shape and have tapered sides, such that a mouth of the notches in the free edge is wider  
15 than a base of the notches.
3. The carton of claim 2, wherein each of the notches are the same size.
4. The carton of claim 3, wherein the number of side panels in the carton is  
20 selected from the group consisting of four, eight or sixteen side panels.
5. The carton of claim 4, wherein the notches are formed only in four of the side panels, such that each of the side panels having the notches opposes another of the side panels having the notches.

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6. The carton of claim 5, further comprising diagonal score lines extending from an interior corner of each of the notches in one set of opposing end panels to an outer corner formed by an intersection of one of the parallel fold lines closest to the notches and the second fold line to facilitate interlocking of the notches.

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7. The carton of claim 6, wherein four double-notch locking junctions are formed when the end panels are folded and interlocked, and the carton comprises a central open area having corners formed by the four double-notch locking junctions.

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8. The carton of claim 6, wherein each of the notches has an outer width of 1.5 to 3 inches.

9. An end closure system for a carton having side panels hingedly joined together by parallel fold lines and end panels, the end panels having a free edge and a hinged edge foldably attached to the side panels, the system comprising two notches of equal size formed in the free edge of four opposing end panels, each of the notches being spaced an equal distance from the parallel fold lines forming an adjacent one of the side panels such that when the side panels are folded to form the carton and the end panels are folded over, one of the notches from each of the end panels interlocks with one of the notches from an adjacent one of the end panels to form four double-notch locking junctions.

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10. The system of claim 9, wherein the notches are substantially rectangular in shape and have tapered sides, such that a mouth of the notches in the free edge is wider than a base of the notches.

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11. The system of claim 10, wherein the number of side panels in the carton is selected from the group consisting of four, eight or sixteen side panels.

12. The system of claim 11, further comprising diagonal score lines extending  
5 from an interior corner of each of the notches in one set of opposing end panels to an outer corner formed by an intersection of one of the parallel fold lines closest to the notches and the hinged edge to facilitate interlocking of the notches.

13. The system of claim 12, wherein the carton comprises a central open area  
10 having corners formed by the four double-notch locking junctions.

14. The system of claim 13, wherein each of the notches has an outer width of 1.5 to 3 inches.

15. A blank foldable into a carton having side panels hingedly joined together  
by parallel fold lines and end panels, the end panels having a free edge and a hinged edge foldably attached to the side panels, and a locking system comprising two notches of equal size formed in the free edge of four opposing end panels, each of the notches being spaced an equal distance from the parallel fold lines forming an adjacent one of the side panels  
20 such that when the side panels are folded to form the carton and the end panels are folded over, one of the notches from each of the end panels interlocks with one of the notches from an adjacent one of the end panels to form four double-notch locking junctions.

16. The blank of claim 15, wherein the notches are substantially rectangular in  
25 shape and have tapered sides, such that a mouth of the notches in the free edge is wider than a base of the notches.

17. The blank of claim 16, wherein the number of side panels in the carton is selected from the group consisting of four, eight or sixteen side panels.

5           18. The blank of claim 17, further comprising diagonal score lines extending from an interior corner of each of the notches in one set of opposing end panels to an outer corner formed by an intersection of one of the parallel fold lines closest to the notches and the hinged edge to facilitate interlocking of the notches.

10           19. The blank of claim 18, wherein the carton comprises a central open area having corners formed by the four double-notch locking junctions.

20. The blank of claim 119, wherein each of the notches has an outer width of 1.5 to 3 inches.

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